THE ROLE OF INTEGRATIVE ONCOLOGY FOR PANCREATIC CANCER PATIENTS
Pancreatic Cancer Action Network Webinar
February 21, 2014

Richard T. Lee, MD
Assistant Professor
Medical Director, Integrative Medicine Program
University of Texas MD Anderson Cancer Center

What Would You Do?

A  B  C

Do you want to change your answer?
Bayes’ Theorem

- Reverend Thomas Bayes (c. 1702 – 1761)
- Mathematician and Presbyterian minister
- Definition: The probability of $H$ conditional on $E$ is defined as $P(E|H) = \frac{P(H \& E)}{P(E)}$, provided that both terms of this ratio exist and $P(E) > 0$
  - Published 1764
- Basic concept is to incorporate new information

What Would You Do?

Yes!

Do you want to change your answer?
Incorporate New Information

Possible Combinations
- You choose A
  - Remove B or C, you stay with A => you win
  - Remove B or C, you change to B/C => you lose
- You choose B…
  - Remove C, you stay with B => you lose
  - Remove C, you change to A => you win
- You choose C…
  - Remove B, you stay with C => you lose
  - Remove B you change to A => you win

“Learn to Think in a New Way”

The Russell-Einstein Manifesto
Issued in London, 9 July 1955
Bertrand Russell and Albert Einstein
Objectives

- To understand the terms alternative, complementary, and integrative medicine.
- To be familiar with the integrative program clinical model at M. D. Anderson
- To know how an integrative approach may benefit you

Outline

- Background & Principles
- MD Anderson Clinical Philosophy and Model
- Creating your plan…
Complementary and Alternative Medicine (CAM)

- National Center for Complementary and Alternative Medicine (NCCAM) – National Institutes of Health (NIH)

- Definition
  - A group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine.

Categories of CAM - NCCAM

1. Natural Products
   - Dietary supplements, herbal products, shark cartilage

2. Mind-Body Interventions
   - Meditation, prayer, mental healing, music therapy

3. Manipulative and Body-Based Methods
   - Chiropractic, osteopathic, massage, manipulation

4. Other - Whole Medical Systems, Energy Therapies, and Movement Therapies
   - Traditional Chinese medicine and Reiki
The Difference Between Alternative & Complementary

- Alternative medicine is used in place of conventional medicine.
- Complementary medicine is used together with conventional medicine.
- Integrative medicine…

- The practice of medicine that reaffirms the importance of the relationship between practitioner and patient
- Focuses on the whole person
- Informed by evidence
- Makes use of all appropriate therapeutic approaches, providers, and disciplines to achieve optimal health and healing
Why an Integrative Approach?

**Alternative**
10 or 100 = 100

**Complementary**
10 + 100 = 110

**Integrative**
10 x 100 = 1,000
“I’d prefer alternative medicine.”
How do we best achieve this goal?
What else should I be taking...

<table>
<thead>
<tr>
<th>Morning</th>
<th>Item</th>
<th>Quantity &amp; Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><em>Udo’s Oil</em> 3-6-9 Blend, 2 tablespoons.</td>
<td>2 tablespoons</td>
</tr>
<tr>
<td>2.</td>
<td><em>Host Defense</em> - 17 Premier Mushrooms, 10 drops.</td>
<td>10 drops</td>
</tr>
<tr>
<td>3.</td>
<td><em>Melatonin</em></td>
<td>16 drops</td>
</tr>
<tr>
<td>4.</td>
<td><em>Selenium</em></td>
<td>10 drops</td>
</tr>
<tr>
<td>5.</td>
<td><em>MycoFungiLinking</em></td>
<td>10 drops</td>
</tr>
<tr>
<td>6.</td>
<td><em>Navel Green Tea Extract</em></td>
<td>6 caps @ 725 mg.</td>
</tr>
<tr>
<td>7.</td>
<td><em>Turmeric Curcumin</em></td>
<td>2 caps @ 957 mg.</td>
</tr>
<tr>
<td>8.</td>
<td><em>TurmericCure</em></td>
<td>1 capsule @ 400 mg.</td>
</tr>
<tr>
<td>9.</td>
<td><em>Hairguruksha</em></td>
<td>5 caps @ 10 mg.</td>
</tr>
<tr>
<td>10.</td>
<td><em>Ginger</em></td>
<td>1 capsule @ 500 mg.</td>
</tr>
<tr>
<td>11.</td>
<td><em>Bone</em></td>
<td>1 capsule @ 960 mg.</td>
</tr>
<tr>
<td>12.</td>
<td><em>Açaí</em></td>
<td>2 caps @ 400 mg.</td>
</tr>
<tr>
<td>13.</td>
<td><em>Resveratrol</em></td>
<td>3 caps @ 500 mg.</td>
</tr>
<tr>
<td>14.</td>
<td><em>Acer Vitamin C</em></td>
<td>3 caps @ 300 mg.</td>
</tr>
<tr>
<td>15.</td>
<td><em>Phytosterol</em></td>
<td>2 tabs @ 50 mg.</td>
</tr>
<tr>
<td>16.</td>
<td><em>Vitamin D3</em></td>
<td>4 tabs @ 1000 mg.</td>
</tr>
<tr>
<td>17.</td>
<td><em>Aged Garlic Extract</em></td>
<td>2 caps @ 500 mg.</td>
</tr>
<tr>
<td>18.</td>
<td><em>St. Joseph Coated Aspirine</em></td>
<td>2 tabs</td>
</tr>
<tr>
<td>19.</td>
<td><em>Virgo</em></td>
<td>1 capsule @ 6 months</td>
</tr>
<tr>
<td>20.</td>
<td><em>ImmPower</em> - Elite Mushrooms</td>
<td>5 caps</td>
</tr>
<tr>
<td>21.</td>
<td><em>Host Defense</em> - 17 Premier Mushrooms</td>
<td>3 caps</td>
</tr>
<tr>
<td>22.</td>
<td><em>Vitamin D3 Plus Multivitamin &amp; Cat’s Claw</em></td>
<td>3 caps @ 130 mg.</td>
</tr>
<tr>
<td>23.</td>
<td><em>PC &amp; Instinct</em> - Rapid Release Tablets</td>
<td>1 tab @ 130 mg.</td>
</tr>
<tr>
<td>24.</td>
<td><em>Super B-Complex</em></td>
<td>1 capsule</td>
</tr>
</tbody>
</table>

Levels of Evidence

- **Rumor Based Medicine**
- **History Based Medicine**
- **Expert Opinion**
- **Experience Based Medicine**
- **Evidence Based Medicine**
Levels of Evidence

- News Articles
- Internet
- Books
- Peer-Reviewed Scientific Journals
“Looks like he died of natural causes.”
<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Drug Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catharanthus roseus (Periwinkle)</td>
<td>Vinblastine</td>
</tr>
<tr>
<td>Camptotheca acuminata (Happy Tree)</td>
<td>Irinotecan</td>
</tr>
<tr>
<td>Taxus brevifolia (Yew Tree)</td>
<td>Paclitaxel</td>
</tr>
<tr>
<td>Podophyllum peltatum (Mayapple)</td>
<td>Etoposide</td>
</tr>
</tbody>
</table>
## Table 3. Herbs and Food and Drug Administration (FDA)-Approved Drugs: Similarities and Differences

<table>
<thead>
<tr>
<th>Factor</th>
<th>Legal Medications (FDA-Approved)</th>
<th>Herbal Therapies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mechanism</strong></td>
<td>Biochemical</td>
<td>Biochemical</td>
</tr>
<tr>
<td><strong>Origin</strong></td>
<td>20% Plant origin</td>
<td>Raw plants</td>
</tr>
<tr>
<td><strong>Efficacy</strong></td>
<td>Evidence required, but not always based on well-controlled trials</td>
<td>Proof not required</td>
</tr>
<tr>
<td><strong>Safety</strong></td>
<td>Must be well studied, within acceptable limits, and derived on drug label or insert</td>
<td>Evidence of safety not required and often unavailable</td>
</tr>
<tr>
<td><strong>Dose</strong></td>
<td>Established, usually by dose-response studies</td>
<td>Burden of proof with FDA to show herbal therapies usually effective</td>
</tr>
<tr>
<td><strong>Pharmacokinetics</strong></td>
<td>Usually well characterized</td>
<td>Some guidelines exist, usually based on historical precedent or tradition, occasionally based on dose-response in clinical trials</td>
</tr>
<tr>
<td><strong>Potency</strong></td>
<td>Standardized</td>
<td>Varies with genetics, growing conditions, time harvested, plant part used, preparation, and storage</td>
</tr>
<tr>
<td><strong>Proof of purity</strong></td>
<td>Required</td>
<td>Varies greatly</td>
</tr>
<tr>
<td><strong>Identification</strong></td>
<td>Some confusion possible with existence of generic and multiple trade names</td>
<td>High potential for contamination; history of case reports</td>
</tr>
<tr>
<td><strong>Quality control</strong></td>
<td>Required</td>
<td>Problematic, beginning with misidentification of plants at harvesting</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td>Wide range</td>
<td>Products should be labeled with and chosen by scientific name (genus species, e.g., Echinacea purpurea is the most used and studied Echinacea species—many of its common names are shared by other plants)</td>
</tr>
<tr>
<td><strong>Insurance coverage</strong></td>
<td>Often</td>
<td>Improving with self-regulation by herb industry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Highly variable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Extracts are the most concentrated and cost effective</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rarely</td>
</tr>
</tbody>
</table>
Herbs & Supplements - Benign?

- Folate & Methotrexate
- Beta Carotene & Vitamin E
  - Increased risk of cancer and death
- Vitamin E & Beta Carotene
  - H&N radiation treatment

* These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

Goodman, GE et al., JNCI 2004; Bairati, I et al, JNCI 2005
Development of Methotrexate

The New England Journal of Medicine

Volume 238
JUNE 3, 1948
Number 23

TEMPORARY REMISSIONS IN ACUTE LEUKEMIA IN CHILDREN PRODUCED BY FOLIC ACID ANTAGONIST, 4-AMINOCTEROYL-GLUTAMIC ACID (AMINOPTERIN)*

Sidney Farber, M.D.,† Louis K. Diamond, M.D.,‡ Robert D. Mercer, M.D.,§ Robert F. Sylvester, Jr., M.D.,‖ and James A. Wolff, M.D.‖

BOSTON

EFFECTS OF A COMBINATION OF BETA CAROTENE AND VITAMIN A ON LUNG CANCER AND CARDIOVASCULAR DISEASE

Gilbert S. Omenn, M.D., Ph.D., Gary E. Goodman, M.D., M.S., Mark D. Thornequist, Ph.D., Joep Baines, M.D., Mark Cullen, M.D., Andrew Glass, M.D., James F. Kisch, M.D., Frank J. Meyrink, Jr., M.D., Barbara Vlahakis, Dr.P.H., James H. Williams, Jr., M.D., Scott Barnhart, M.D., M.P.H., and Samuel Hammel, M.D.†

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Graphs showing the cumulative incidence of lung cancer and cardiovascular causes over time for active treatment and placebo groups.
A Randomized Trial of Antioxidant Vitamins to Prevent Second Primary Cancers in Head and Neck Cancer Patients

Isabelle Baillot, François Meyer, Michel Gélinas, André Fortin, Abdennour Nabil, François Brochet, Jean-Philippe Mercier, Bernard Tém, François Harel, Benoit Masse, Éric Vigneault, Sylvie Vass, Pierre del Vecchio, Jean Roy

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Patient Safety

- Serious side effects
  - Kava kava
- Contamination
  - Heavy Metals in Traditional Chinese Herbs
  - PC-SPES
- Drug interactions
  - St. John’s Wort
  - Grapefruit Juice

Potential Risks

Hepatotoxicity from green tea: a review of the literature and two unpublished cases

Acute Cyanide Toxicity Caused by Apricot Kernel Ingestion

Acquired Long QT Syndrome and Monomorphic Ventricular Tachycardia After Alternative Treatment With Cesium Chloride for Brain Cancer

UROTHELIAL CARCINOMA ASSOCIATED WITH THE USE OF A CHINESE HERB (ARISTOLOCHIA FANGCHI)

Ayurvedic herbal medicine and lead poisoning

A phase I/II trial of a polysaccharide extract from *Grifola frondosa* (Maitake mushroom) in breast cancer patients: immunological effects

Gary Deng · Hong Lin · Andrew Seidman · Monica Fournier · Gabriella D’Andrea · Kathleen Wesa · Simon Yeung · Susanna Cunningham-Rundles · Andrew J. Vickers · Barrie Cassileth
The mission of the Integrative Medicine Program is to engage patients with cancer and their families to become active partners in their own physical, psycho-spiritual, and social health through personalized education and evidenced-based clinical care to optimize health, quality of life, and clinical outcomes across the cancer continuum.

The Integrative Medicine Model
M. D. Anderson Cancer Center

- Research

- Education

- Patient Care
The Integrative Medicine Clinic aims to work collaboratively with the oncology team to build a comprehensive and integrative care plan that is personalized, evidence-based, and safe with the goal of improving clinical outcomes.

- Integrated Team → Communication & Coordination
- Personalized → Cancer, Treatment, & Goals of Care
- Evidence-based → Research
- Safe → Minimize Risks
- Improve Clinical Outcomes → Maximize Benefits
  - Quality of Life
  - Function: Performance Status & Recovery
  - Cancer Recurrence & Survival
- Cost-effective
Integrative Medicine Clinical Model

The Need for a New Medical Model: A Challenge for Biomedicine

George L. Engel

Physical

Health

Social

Psycho-Spiritual
Integrative Medicine Center Model

Clinical Consultation

- Education
  - Herbs/Supplements = Medications
  - Comprehensive Philosophy
- Directed therapeutic interventions
- Interdisciplinary Team Conference
- Communication with the primary team
- Monitor clinical outcomes
Nutrition & Physical Activity

Americans can prevent 1/3 of the most common cancers*

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>Preventable Rate</th>
<th>Number Prevented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast Cancer</td>
<td>38%</td>
<td>86,210</td>
</tr>
<tr>
<td>Colorectal Cancer</td>
<td>45%</td>
<td>64,557</td>
</tr>
<tr>
<td>Lung Cancer</td>
<td>36%</td>
<td>81,417</td>
</tr>
<tr>
<td>Pancreatic Cancer</td>
<td>70%</td>
<td>32,955</td>
</tr>
<tr>
<td>Endometrial Cancer</td>
<td>21%</td>
<td>2,895</td>
</tr>
<tr>
<td>Stomach Cancer</td>
<td>47%</td>
<td>10,658</td>
</tr>
<tr>
<td>Uterine Cancer</td>
<td>13%</td>
<td>3,442</td>
</tr>
</tbody>
</table>

* Estimates based on data from the American Institute for Cancer Research.

Source: American Institute for Cancer Research.
American Cancer Society Guidelines on Nutrition and Physical Activity for Cancer Prevention
Reducing the Risk of Cancer With Healthy Food Choices and Physical Activity

- Healthy body weight (normal BMI)
- Exercise regularly – 150 minutes/week of moderate intensity or 75 minutes of vigorous activity
- 5 servings of fruits and vegetables per day
- Limit processed meat, red meat, and refined grains
- Limit alcohol

Research Article
Following Cancer Prevention Guidelines Reduces Risk of Cancer, Cardiovascular Disease, and All-Cause Mortality

E Cancer mortality risk among men

F Cancer mortality risk among women

$p$ for trend among never smokers = 0.1
$p$ for trend among former smokers < 0.0001
$p$ interaction = 0.1

$p$ for trend among never smokers < 0.0001
$p$ for trend among former smokers = 0.2
$p$ interaction = 0.3
Obesity Trends* Among U.S. Adults
BRFSS, 1990, 2000, 2010
(*BMI ≥ 30, or about 30 lbs. overweight for 5’4” person)

The NEW ENGLAND JOURNAL of MEDICINE

Overweight, Obesity, and Mortality from Cancer in a Prospectively Studied Cohort of U.S. Adults

Eugenia E. Calle, Ph.D., Carmen Rodriguez, M.D., M.P.H., Kimberly Walker Thurmond, B.A., and Michael J. Thun, M.D.

Figure 1. Summary of Mortality from Cancer According to Body-Mass Index for U.S. Men in the Cancer Prevention Study II, 1982 through 1998.

For each relative risk, the comparison was between men in the highest body-mass-index (BMI) category (indicated in parentheses) and men in the reference category (BMI 25.0 to 29.9). Asterisks indicate relative risks for men who never smoked. Results of the linear test for trend were significant (P<0.05) for all cancer sites.

Figure 2. Summary of Mortality from Cancer According to Body-Mass Index for U.S. Women in the Cancer Prevention Study II, 1982 through 1998.

For each relative risk, the comparison was between women in the highest body-mass-index (BMI) category (indicated in parentheses) and women in the reference category (BMI 18.5 to 24.9). Asterisks indicate relative risks for women who never smoked. Results of the linear test for trend were significant (P<0.05) for all cancer sites.
Acupuncture

- Pain (1A)
- Nausea (1A)
- Xerostomia (1B)
- Hot Flashes (1B)
- Fatigue (2C)
- Neuropathy (2C)
- Insomnia

Oncology Massage Therapy

- Mood Disturbance (1C)
  - Anxiety
  - Depression
- Pain (1C)
- Neuropathy
Music Therapy

- Stress (1B)
- Mood Disturbance (1B)
  - Anxiety
- Quality of Life (1B)

Mind-Body Practices

- Stress (1B)
- Mood Disturbance (1B)
  - Anxiety
- Quality of Life (1B)
- Insomnia
Basic Principles

- “Real” Natural Options

- Balance – Yin/Yang
  - More is not necessarily better
Basic Principles

- Small Steps & Goals, Big Vision & Goals
- Dose & Quality
- Enjoyment
Assess Your Needs

Work with Your Medical Team

Set Goals

Common Needs

- Physical:
  - Nutrition
  - Physical Activity
  - Symptoms
- Mind-Spiritual
  - Stress & Anxiety
  - Finding Meaning
- Social Support
  - Connecting with others
Physical Activity, Obesity, Height, and the Risk of Pancreatic Cancer

Figure. Pancreatic Cancer According to Physical Activity and Body Mass Index From the NHS and HPFS Cohorts

NHS indicates Nurses’ Health Study; HPFS, Health Professionals’ Follow-up Study.

Obesity Adversely Affects Survival in Pancreatic Cancer Patients

Robert R. McWilliams, M.D., Martha E. Matsumoto, Patrick A. Burch, M.D., George P. Kim, M.D., Thorvardur R. Halldararson, M.D., Mariza de Andrade, Ph.D., Kaye Reid-Lombardo, M.D., and William R. Bamlet, M.D.
Are Risk Factors Associated with Outcomes in Pancreatic Cancer?

De-shen Wang, Zhi-qiang Wang, Le Zhang, Miao-zhen Qiu, Hui-yan Luo, Chao Ren, Dong-sheng Zhang, Feng-hua Wang, Yu-hong Li, Rui-hua Xu

![Graph showing survival functions with a P-value of 0.000.]

Nutrition Principles

- 2 HQ’s
  - Healthier Choices
  - Quality Sources
  - How are you eating food
  - Quantity
Nutrition

- Fruits & Vegetables (5-6 servings per day minimum)
- Protein
- Carbohydrates
- Fats & Oils
- Limit Processed Foods
  - High Calorie, Low Nutrition Value
- Limit Alcohol

Natural Vitamins

<table>
<thead>
<tr>
<th>Fruits</th>
<th>Amount</th>
<th>Minerals Contained</th>
<th>Vitamins Contained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple</td>
<td>1/4 medium apple with skin contains 1.47 grams of protein, 94 calories, and 4.4 grams of dietary fiber</td>
<td>Potassium - 195 mg Calcium - 11 mg Phosphorus - 20 mg Iron - 0.12 mg Magnesium - 0.2 mg Zinc - 0.09 mg Other contains a trace amount of other minerals</td>
<td>Vitamin A - 96 IU Vitamin C - 18 mg Thiamin (B1) - 0.06 mg Riboflavin (B2) - 0.02 mg Niacin (B3) - 0.1 mg Vitamin B6 - 0.02 mg Folate - 0.6 mcg Vitamin D - 10 mcg Vitamin E - 0.05 mcg Vitamin K - 0.4 mcg Contains trace other vitamins in small amounts</td>
</tr>
<tr>
<td>Avocado</td>
<td>One medium avocado contains 4.02 grams of protein, 322 calories and 13.2 grams of fat</td>
<td>Potassium - 876 mg Calcium - 106 mg Phosphorus - 80 mg Magnesium - 32 mg Iron - 1.1 mg Dietary fiber - 7.09 mg Antioxidant - 9.29 mg</td>
<td>Vitamin A - 251 IU Vitamin C - 31 mg Thiamin (B1) - 0.1 mg Riboflavin (B2) - 0.02 mg Niacin (B3) - 0.1 mg Vitamin B6 - 0.15 mg Folate - 1.05 mg Vitamin D - 0.79 mcg Vitamin K - 0.12 mg</td>
</tr>
</tbody>
</table>
How Many Calories?

Sure You Want that Snack?

Here’s how much exercise a 150-pound person would have to do to burn off the calories in some popular snacks.1

Maybe you’d be better off with a pouch or an orange (80 calories each) or a grande flavored Skinny Latte (120 calories) instead?

1Arizona State University’s Healthy Lifestyle Research Center ats.google.com/site
comprehensivephysicalactivity

<table>
<thead>
<tr>
<th>Snack</th>
<th>Calories</th>
<th>Exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td>NY Fries Regular (209 g)</td>
<td>500 cal</td>
<td>1 hr. 55 min.</td>
</tr>
<tr>
<td>Doubles Tennis</td>
<td></td>
<td>1 hr.</td>
</tr>
<tr>
<td>Starbucks Cinnamon Dolce Latte</td>
<td>410 cal</td>
<td>Jogging 30 min.</td>
</tr>
<tr>
<td>whipped cream</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kernels Original Butterscot P</td>
<td>419 cal</td>
<td>1 hr. 15 min.</td>
</tr>
<tr>
<td>Popcorn, no added “butter”</td>
<td></td>
<td>Aerobics</td>
</tr>
<tr>
<td>Small (5 ounces)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tim Hortons Apple Fritter (95 g)</td>
<td>300 cal</td>
<td>1 hr. Walking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(5.8 km/h)</td>
</tr>
</tbody>
</table>
Can physical activity modulate pancreatic cancer risk? a systematic review and meta-analysis

Michael A. O’Rorke, Marie M. Cantwell, Chris R. Cardwell, Helen G. Mulholland and Liam J. Murray
Cancer Epidemiology Health Services Research Group (CEHSRG), Centre for Public Health, Queen’s University Belfast, Belfast, Northern Ireland, United Kingdom

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Total Physical Activity</th>
<th>RR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shiroumar, Solomons et al (2002)</td>
<td>Sedentary vs. Active</td>
<td>0.42 (0.22, 0.83)</td>
</tr>
<tr>
<td>Horrigan et al (2008)</td>
<td>Very active vs. Inactive</td>
<td>0.82 (0.60, 1.13)</td>
</tr>
<tr>
<td>Nutting et al (2007)</td>
<td>MET/Hr/day Q4 vs. Q1</td>
<td>1.00 (0.98, 1.02)</td>
</tr>
<tr>
<td>Cullen et al (2008)</td>
<td>MET/Hr/day Q3 vs. Q1</td>
<td>0.52 (0.36, 0.76)</td>
</tr>
<tr>
<td>Isaac et al (2008)</td>
<td>MET/Hr/day Q4 vs. Q1</td>
<td>0.82 (0.63, 1.07)</td>
</tr>
<tr>
<td>Overall*</td>
<td></td>
<td>0.72 (0.52, 0.99)</td>
</tr>
<tr>
<td>Adjustment for key confounders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMI</td>
<td>Yes vs. No</td>
<td>0.81 (0.69, 1.02)</td>
</tr>
<tr>
<td>Smoking</td>
<td>Yes vs. No</td>
<td>0.77 (0.62, 0.99)</td>
</tr>
</tbody>
</table>

A Progressive Postresection Walking Program Significantly Improves Fatigue and Health-Related Quality of Life in Pancreas and Periampullary Cancer Patients

Theresa P Yeo, PhD, MPH, MSN, AOCNP, Sherry A Burrell, RN, CNE, ACNS-BC, Patricia K Sauter, MSN, ACNP, Eugene P Kennedy, MD, FACS, Harish Lavu, MD, FACS, Benjamin E Leiby, PhD, Charles J Yeo, MD, FACS

- 80% versus 58% still walking at the end of the study
- Walking 2 miles versus 1 mile
- Improvements in fatigue, pain, and physical symptoms
Similar associations have been reported in breast, endometrial, colorectal, brain, and prostate cancer.

Physical Health

- Assessment
  - Body Mass Index
  - Waist Circumference
- Nutrition
- Physical Activity
- Planning
  - Schedule
Physical Activity

- 3 hours of cardiovascular exercise per week
  - 30 minutes a day
- Resistance/Weight Training
- Consider Supervision
- Monitor Your Progress

Mind-Spiritual Health

- Build from existing strengths
- Learn a new skill
- Practice
  - 15-30 minutes 3-5 per week
The Effects of a Presurgical Stress Management Intervention for Men With Prostate Cancer Undergoing Radical Prostatectomy

Patricia A. Parker, Curtis A. Peteetaw, Richard J. Babian, Louis L. Fisters, Brian Miles, Adenea Fortier, Qi Wei, Danielle D. Carr, and Lorenzo Cohen

Mean Mood Disturbance Follow-up

Mean Physical Function Follow-up

Cohen et al., JCO, 2009
Natural Killer Cell Function

- Stress Management
- Supportive Attention
- Usual Care

Percent Lysis (E:T 80:1)

Baseline
48 hours

- 20
- 22
- 24
- 26
- 28
- 30
- 32

P = 0.04

48 hours post-surgery is adjusted for baseline and other covariates.

Cohen et al., JCO, 2009

Social Health

- Hobbies
- Try something new
- Volunteer
Depressive Symptoms at Baseline in Renal Cell Cancer

Adjusted for risk category (p=0.05, HR=1.5, 95% CI: 1.00-2.23)

Psychologic Intervention Improves Survival for Breast Cancer Patients
A Randomized Clinical Trial

Barbara L. Anderson, et al.
Hong-Ching Yang, et al.
Million B. Farris, et al.
Daniela M. Golden-Kreutz, et al.
Charlene F. Glick, et al.
Lisa M. Thompson, et al.
Diane C. Young, et al.
Summary: The Integrative Medicine Program

- Patient Care
  - Consultation, Massage, Acupuncture, Music Therapy, Meditation and Nutrition
  - Group Sessions
- Research
  - Mind-body, acupuncture, and natural product clinical trials
- Education
  - CIMER web site and Tuesday noon lecture series

Integrative Medicine Center Model

- Supportive Care Center
- Pain Center
- Acupuncture
- Massage
- Smoking Cessation
- Psychiatry
- Chaplaincy
- Meditation
- Yoga
- Tai Chi
- Music Therapy
- Optimal Health & Healing = Improved Clinical Outcomes
- Psycho-Spiritual
- Social
- Education
- Physical
- Pharmacy
- Rest/Sleep
- Environmental Exposures
- Patient Advocacy
- Social Work
- Family/Friends
- Support Groups
- Toxicology
- Smoking Cessation
- Rehabilitation
- Exercise
- Nutrition
- Integrated Oncology Consultation
- Chemotherapy
- Surgery
- Radiation
- Physical & Occupational Therapy
- Fatigue Center
- Tobacco Treatment Program
- Social Work
- Patient Advocacy
- Support Groups
When to Refer?
Continuum of Cancer Care

- Diagnosis
- Surgery
- Chemotherapy
- Radiation

Prevention → Active Treatment → Survivors

- Meditation
- Diet & Exercise
- Acupuncture
- Music Therapy

Summary – Integrative Medicine

- Build a Comprehensive Care Plan
  - Physical-Psychological/Spirit-Social Dimensions
  - Team Approach
- Optimal Health and Healing
  - Improve Outcomes – Cancer Control, Symptoms, Function
- Personalized, Evidence-based, Safe
Principles

- Incorporate new information
  - Levels of Evidence
- Balance
- True Natural Options
- Personalize
- Enjoy
Integrative Medicine Team

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Gabriel Lopez
Peiying Yang
Alejandro Chaoul
Kay Garcia
Laura Fletcher
Amy Spelman
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And our many collaborators...
Thank you for your participation!

Pancreatic Cancer Action Network
www.pancan.org

If you have questions, please contact our Patient and Liaison Services (PALS) program at (877) 272-6226 or e-mail pals@pancan.org.